

# WARM-SEASON INSECT CONTROL GUIDE

New in insect control: the spittlebug, high-pressure injection systems and biotechnology. The following guide offers old stand-by cures and new advances in insect control.

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The flight of the adult green June beetle usually peaks in late May or June.

Insect damage continues to limit production and maintenance of quality turf in many areas of the southern United States.

Insect pests offer southern turf managers a variety of challenges. Soil insects such as mole crickets, fire ants and some grub species expand their range each year. Estimated costs to control mole crickets on some Georgia golf course turf are up to \$1,000 a hole during the 1986-87 season.

Fire ant control cost estimates in Alabama (including turf and other areas) exceeded \$5 million last year. The last two summers' droughts in many areas, excess rainfall in others, coupled with high temperatures, complicated control efforts.

Cultural measures and insecticidal

treatments can be timed to maximize the control of pest populations. Availability of alternative insecticide controls remains low, but new technology and research offers hope for more effectively using insecticides. Research continues for insect-resistant turf varieties and effective biological control agents.

### New technology

High-pressure injection systems are not new. Injecting insecticides into turf at 300-650 psi has resulted in limited success and even failure in areas of the South where soils are rich in organic matter or contain a high percentage of clay.

Cross Equipment Company of Albany, Ga. has developed high-pres-

sure systems which inject insecticides at 1500-2000 psi as nozzles move across the top of the turf. Chlorpyrifos (Dursban) and diazinon give poor to fair control of mole crickets when conventional treatments (including post-treatment irrigation) are applied.

However, in recent tests with the new high-pressure injection, both insecticides have given excellent residual control of mole cricket damage. Another advantage of this system is reduced surface residue of insecticides. Preliminary tests for billbug and white grub control with this system also look promising.

### Other new tools

Derived from a soil bacterium, abamectin is a new and different type of insecticide. Merck registered this product in 1987 as Affirm Fire Ant Bait. Affirm destroys fire ant colonies by disrupting reproductive potential. However, Affirm works slowly and worker ants may be present in estab-

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lished colonies for six weeks or more.

Triumph 4EC (Ciba-Geigy) registered for restricted use by lawn care professionals, gives lawn managers an excellent new tool for grub control in many areas of the South. However, current labeling prohibits application

**1987 TIMING STUDY WITH MOCAP 10G AND TURCAM 2.5G  
FOR MOLE CRICKET DAMAGE CONTROL\* (ALABAMA)**

Name, No. Treatments	Rate/Treatment lb AI/acre	Arrow length indicates damage control effectiveness			
		JUNE**	JULY	AUGUST	SEPT.
Mocap, 2	5	—————→	—————→	—————→	—————→
Turcam, 2	2	-----→	-----→	-----→	-----→
Mocap, 2	5	—————→	—————→	—————→	—————→
Turcam, 2	2	-----→	-----→	-----→	-----→
Mocap, 1	10	.....→	.....→	.....→	.....→
Mocap, 2	5	—————→	—————→	—————→	—————→
Turcam, 2	2	-----→	-----→	-----→	-----→
Mocap, 1	10	.....→	.....→	.....→	.....→

\*Damage evaluated weekly (Rating system 0-9; Cobb and Mack, 1988)  
\*\*Newly hatched nymphs observed June 2.

on "sandy" soils, so use is limited in many areas where mole crickets are a major problem.

Two strains of parasitic nematodes, furnished by Biosis of Palo Alto, Calif., show promise in controlling or suppressing mole crickets.

Field tests in Alabama the past two years and in South Carolina last year resulted in "cautiously optimistic" damage control on frequently-irrigated turf. The nematodes tested have been exempt from registration by EPA. Further testing will try to identify optimum establishment requirements, refine application techniques and discover proper timing.

Cool-season turf-type fescue and ryegrass varieties are being grown farther south. Most of these are endo-

phyte-infected grasses, and show some resistance to damage by surface feeding insects.

**Timing**

Timing of insecticidal control continues to be a key factor in determining the extent to which controls work. Timing studies this past year indicated that Mocap or Turcam granules applied to smaller, newly-hatched mole cricket nymphs in June and July worked more effectively to control damage than August applications when larger nymphs were present.

Even treatments of half rates of Mocap applied in June and July gave longer acceptable damage control than full rate treatment in August.

**Guidelines**

To determine correct timing, life cycles of important pests must be understood. The following information suggests seasonal control strategies for common Southern turf insect pests, including some suggested insecticidal controls.

However, every turf manager's situation has characteristics all its own. Turf professionals should know their situations better than anybody else. (There is no substitute for frequent turf inspection!) **LM**

The comments herein should be used as guidelines for development of control strategies for Southern turf pests. No endorsement of specific products is intended.



The spittlebug nymphs infest areas of turf with thatch accumulation and high humidity.



High pressure injection can give excellent residual control of mole crickets.